

Claims

- [c1] 1.A rotating electrical machine comprising an armature having a circular core of a magnetic material and a plurality of magnetic pole teeth extending radially from said circular core for cooperation with a plurality of circumferentially spaced permanent magnets, each of said magnetic pole teeth defining a core of generally rectangular cross section with slots formed between circumferentially adjacent pole teeth, an insulator covering at least in part said cores of said magnetic pole teeth, coil windings wound around said cores of said magnetic pole teeth with said insulator being interposed there between, each of said insulators having an axially extending protruding end portion on the opening sides of said slots for guiding the wire of the coil windings into the slots during the winding thereof.
- [c2] 2.A rotating electrical machine as set forth in claim 1 wherein the insulator axially extending protruding end portions extend to a greater axial extent at the center of the pole teeth than at the sides adjacent the slots for moving the wire of the coil windings axially toward the slots during the winding thereof.
- [c3] 3.A rotating electrical machine as set forth in claim 2 wherein the insulator axially extending protruding end portions are tapered toward the slot sides thereof.
- [c4] 4.A rotating electrical machine as set forth in claim 2 wherein the insulator axially extending protruding end portions are curved toward the slot sides thereof.
- [c5] 5.A rotating electrical machine as set forth in claim 1 wherein the diameter of the wire of the coil windings is not less than 1 mm.
- [c6] 6.A rotating electrical machine as set forth in claim 1 wherein the core is formed by a plurality of laminated plates and the insulator has channel shaped portions surrounding at least the axial outermost of said laminations.
- [c7] 7.A rotating electrical machine as set forth in claim 6 wherein each of the magnetic pole teeth define an enlargement at the terminal ends of the cores to define a narrow mouth opening into the slots and the insulator axially

extending protruding end portions surround the pole teeth enlargements.

[c8] 8.A rotating electrical machine as set forth in claim 7 wherein the insulator axially extending protruding end portions extend to a greater axial extent at the center of the pole teeth than at the sides adjacent the slots for moving the wire of the coil windings axially toward the slots during the winding thereof.

[c9] 9.A rotating electrical machine as set forth in claim 8 wherein the insulator axially extending protruding end portions are tapered toward the slot sides thereof.

[c10] 10.A rotating electrical machine as set forth in claim 8 wherein the insulator axially extending protruding end portions are curved toward the slot sides thereof.